modems.[40] Indeed, cable companies already are testing tomorrow's modems that will connect directly to television sets through set-top devices.

The speed and intensity with which cable operators are testing and rolling out cable modems suggests that cable operators will pursue the residential broadband market with the same fervor that characterizes their behavior in the MVPD market. With a significant head start over DSL deployment, cable companies are signing up over 1,000 subscribers per day.[41] @Home, the leading cable modem service with over 147,000 subscribers, has garnered exclusive access to more than half of all homes passed by cable in North America.[42] Microsoft and Compaq have invested in Time Warner's Road Runner service, which has over 90,000 customers and access to 27 million cable homes.[43] Motorola, the leading cable modem producer, recently announced shipments of over 170,000 cable modems in the first seven months of 1998, and total shipments of over 250,000, this on track to quadruple its sales during 1998.[44] Cable modem services are averaging around $40 per month, which is lower than current DSL service offerings.[45]

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40 Rob Fixmer, "Phone Companies Create Traffic Jam on Road to Internet," THE NEW YORK TIMES, Sept. 1, 1998, at F5.

41 *See* Exhibit C. By 2000, cable is predicted to achieve 4.3 percent penetration, as compared with 0.4 percent for ADSL. *See* Exhibit A.

42 *See* "@Home Network Broadens Reach with New North American and International Cable Affiliate Relationships", available at <http://www.home.net/corp/news/pr_980630_04.html>.

43 "Microsoft and Compaq Join Time Warner Cable and MediaOne in High-Speed Online Venture," available at <http://www.rr.com/rdrun/news/jv.html>.

44 *See* "Motorola to Announce It Has Shipped 170,000 Cable Modems Through July," THE WALL STREET JOURNAL at B5 (July 27, 1998) ("*Motorola Article*").

45 David Bowermaster, " Cable Modems Outpace ADSL," July 31, 1998, available at <<http://www.zdnet.com>>.

The following chart shows the commercial cable modem launches in Florida, just one of the nine states in BellSouth's region:

| Launch Location | Cable MSO | Service Price/Features[46] |
|---|---|---|
| Broward County | MediaOne | Unlimited Internet access one-way express service for $34.95/month for cable subscribers ($44.95 for non-cable); $99.95 installation fee |
| Clearwater | GTE | Unlimited Internet access at $43.90/month ($54.90 for non-cable); $125 installation fee |
| Coral Springs | Advanced Cable Communications | ISP Channel service at $49/month |
| Dade County | Media One | Unlimited Internet access one-way express service for $34.95/month for cable subscribers ($44.95 for non-cable); $99.95 installation fee |
| Gainesville | Cox Communications | Market trial for one-way cable modem |
| Jacksonville | MediaOne | Unlimited Internet access one-way express service for $34.95/month for cable subscribers ($44.95 for non-cable); $99.95 installation fee |
| Miami Beach | Rifkin & Associates | Cable Internet service offered with Convergence.com |
| Palm Beach County | Adelphia Cable | Power Link one-way service for $34.95/month |
| Sarasota | Comcast | @Home service offers unlimited Internet access for $39.95/month for cable subscribers ($59.95 non-cable) with a $175 installation fee |
| Tampa Bay | Time Warner | Unlimited Internet access through Road Runner service for $39.95/month |

Cable companies are aggressively launching cable modem service in BellSouth's other states as well. InterMedia Partners, for example, has launched cable modem service in Nashville and Kingsport, Tennessee (with imminent roll-outs planned for Knoxville, Chattanooga, and Cleveland),[47] while Time Warner's Road Runner service is available in Memphis and will

46 *See* Exhibit D.

47 *See* "InterMedia Enjoys Record Breaking Results With Deployment of Online Systems Services' Internet Operation", available at <<http://www.ossinc.net/Media/Pressk...releases/June251998OSSKingsport.asap>>.

debut this fall in Charlotte, North Carolina.[48] MediaOne launched an unlimited Internet access service in Atlanta, while Rifkin & Associates serves Gwinnett County, Georgia and Charter Communications is testing its service in Newman, Georgia. Similarly, Fanch Communications is conducting a cable modem market trial in Murray, Kentucky.

Significantly, cable companies are accomplishing this impressive roll-out without any regulatory impediments. Cable modem service has never been -- and should not be -- subject to regulation under Title II,[49] nor has the FCC subjected cable modems to regulation as local exchange service.[50] Moreover, cable companies can freely bundle video, voice and data services into integrated "one-stop" offerings, which gives them a significant edge over ILECs in serving the mass market.[51] In fact, cable operators are expanding their focus from advanced access services to end-to-end advanced networking and IP backbones and content caching centers.[52]

### 2. Competitive Local Exchange Carriers ("CLECS")

> *"[E]volving DSL equipment necessary to carry high-speed digital signals on properly conditioned local loops is available to both the ILECs and CLECs. So is the associated multiplexing and*

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48 *See* "Road Runner to Launch in North Carolina", available at <<http://www.rr.com/rdrun/news/char.html>>.

49 *See* 47 U.S.C. § 541. Unlike BOCs, cable companies have never been required to unbundle and resell their network elements and services.

50 *See Implementation of Section 703(e) of the Telecommunications Act of 1996*, CS Docket No. 97-151, Report and Order, FCC 98-20, at ¶ 33 (rel. Feb. 6, 1998).

51 *See* Christopher Mines and Kate Delhagen, "Cable Modems Speed to Market," The Forrester Brief, Vol. 5 No. 2 (June 1, 1998), available at <<http://www.forrester.com/cgi-bin/cgi.pl?displayOP&URL=/people/1998/briefs/pt060198.html>> (with bundled offerings, "Cox and MediaOne are winning phone subscribers away from BellSouth in Atlanta. . . . [P]enetration rates of 10%-plus are indicative of success in bundling strategies by the cable MSOs").

52 Exhibit A at 7.

*routing/switching equipment necessary to create advanced high-speed data communications services."*[53]

DSL-based service may be as widely available today -- and as aggressively promoted -- from CLECs as from ILECs.[54] With an investment much smaller than that of the ILECs, any of the more than 2,800 CLECs[55] can purchase DSL-capable (or ISDN-capable) loops from BellSouth, attach the necessary equipment, and provide DSL service directly competitive with BellSouth's ADSL offering. Having captured a number of the ILECs' most lucrative business customers, CLECs have more than adequate opportunities to fund investment in broadband services.[56]

Firms that are presently purchasing unbundled loops and appending their own DSL equipment include Covad in San Francisco, Vitts in Manchester, New Hampshire, SourceNet in Reno, Nevada, and HarvardNet in Boston.[57] Covad, owned in part by Intel Corporation, expects its service to reach 20 million homes and business by the end of 1999.[58] NorthPoint

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53 Commissioner Susan Ness, "To Have and Have Not: Advanced Telecommunications Technologies," Remarks Before the Computer and Communications Industry Association's 1998 Washington Caucus (June 9, 1998).

54 Carol Wilson, "Faster Access Finally Gets Real," August 10, 1998, available at <<http:/www.2dnet.com/intweek/print980810/343806.html>>.

55 *Communications Daily*, "Number of State-Certified CLECs Triples In Year" (Sept. 10, 1998). Of the total, BellSouth's nine-state region accounts for 832 CLEC certificates. *Id.*

56 *See, e.g.*, Mary E. Thyfault, "Data Speeds Up -- Covad Uses Existing Phone Network for Faster DSL Access," INFORMATIONWEEK, Issue 696 (Aug. 17, 1998), available at <<http://www.techweb.com/se/directlink.cgi?IWK19980817S0038>> (stating that Covad recently raised $160 million to fund expansion).

57 *DSL Barriers Paper* at 1.

58 *See* "Covad Communications Extends Reach of its DSL Service Through Launch of ISP Partner Program", available at <<http://www.covad.com/about/press_releases/press_020998.html>; Mary E. Thyfault, "Data Speeds Up -- Covad Uses Existing Phone Network For Faster DSL Access," August

Communications has announced a strategic alignment with @Work to offer a DSL transport option to small and medium-sized businesses.[59] CLECs are primarily serving large and medium business customers and ISPs in major metropolitan areas. For example, NetCom On-Line Communications Services, Inc., a subsidiary of ICG Communications, a leading integrated communications provider, plans to offer DSL service in 100 central offices in California and Colorado in the third quarter of 1998, and in an additional 300 central offices by the end of 1999.[60]

### 3. Information Service Providers ("ISPs")

Information service providers, including Internet service providers and other "content" providers, number in the thousands.[61] Several of the more-powerful ISPs have achieved strong brand recognition in the mass market. With a consolidating Internet backbone market (approximately two-thirds of which may soon be controlled by WorldCom/MCI and Cable & Wireless)[62] and the abandonment of free peering agreements, ISPs must search out new Internet connections and backbone strategies. The more than 4,800 providers of Internet access[63] have a strong market incentive to construct their own access or backbone facilities or team with other broadband suppliers, such as cable operators or CLECs, to ensure a steady distribution channel and

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17, 1998, available at <<http:www.techweb.com/se/directlink.cgi? IWK19980817 500388>>. *See also DSL Barriers Paper* at iv.

59 *See* "@Work Expands Transport Portfolio To Include DSL", available at <http://www.home.net/corp/news/pr_980629_01.html>

60 "Netcom Announces Digital Subscribers Line Internet Strategy and Q3 1998 Launch Plan," August. <<http://www.xdsl.com/today/news/story.shtml? Key=903963193>>.

61 *NOI* at ¶ 37.

62 *See* William Echikson, "No Monopolies Please - We're European," BUSINESS WEEK (June 15, 1998), at 60 (together, WorldCom-MCI would control 45 % to 65 % of total Internet traffic).

63 *See Cable Working Paper* at 18.

avoid reliance on the IXCs.[64] In fact, several ISPs are teaming with CLECs to provide high-speed Internet access.[65]

### 4. Interexchange Carriers ("IXCs")

Long-distance providers currently supply the basic transmission medium for Internet backbone traffic, and are the established market leaders for advanced networking services. These IXCs have an obvious incentive to bypass ILEC facilities and to connect consumers directly to their sweeping, high-capacity networks -- in fact, even prior to recently completing its $11.4 billion purchase of Teleport Communications Group, half of AT&T's business traffic ran directly to AT&T's fiber-optic network.[66]

With substantial embedded plant, operational efficiencies, global presence, and strong reputations with business and mass market users alike, the IXCs can leverage their established interexchange facilities for advanced networking as well as access services. Indeed, the IXCs are in fact engaging in aggressive competitive tactics which signal their access entry strategies and seemingly boundless financial resources -- AT&T's planned purchase of TCI,[67] MCI's proposed merger with WorldCom,[68] and Sprint's impending Integrated On-demand

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64 *See* Exhibit A at 9.

65 *See* Carol Wilson, "Faster Access Finally Gets Real," Inter@ctive Week (Aug. 10, 1998), available at <<http://www.zdnet.com/intweek/print/980810/343806.html>>.

66 *See* Stephanie N. Mehta and John J. Keller, "Sprint Plans To Integrate Voice, Data" THE WALL STREET JOURNAL (June 3, 1998), at A3 ("*Sprint Article*").

67 *See* "AT&T Agrees to Buy TCI for $32 Billion; Deal Could Mean Local Phone Service via Cable Hookups," THE CHICAGO TRIBUNE (June 24, 1998), at C1.

68 *See* Jeannine Aversa, "Justice Clears WorldCom-MCI Merger," AP ONLINE (July 16, 1998).

Network.[69] Startup challengers that are building all-new advanced networks, such as Qwest, IXC Communications and Level 3 Communications, will further fuel the long-distance companies' investment in advanced networking and access services.[70]

**5. Satellite Services**

Satellite providers should prove to be strong competitors in the advanced services marketplace. Satellite services can offer inherent technological advantages such as low-cost transmission rates, broad geographic coverage areas, and low operational costs. Despite costly satellite construction and launch, providing the satellite service requires significantly less infrastructure than terrestrial-based systems, which keeps marginal costs low.

High-speed broadband service via satellite takes several forms, including direct transmission to small home satellite dishes. Since 1995, Hughes Network Systems, a subsidiary of Hughes Electronics, has commercially offered high-speed Internet access service (up to 400 kbps) via satellite to subscribers in the 48 contiguous states for $20 to $130 per month through its "DirecPC" and "DIRECDuo" offerings.[71] In addition, high-speed data services are available through Very Small Aperture Terminal (VSAT) satellite services.

A number of other satellite providers have indicated their intention to offer high-speed broadband services in a number of different frequency bands. For example, the Commission granted licenses and orbital assignments to more than a dozen geostationary Ka band satellite systems last year, most of which have proposed to offer low-cost, global broadband interactive

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69 *Sprint Article* (relaying Sprint's plans to give "customers 'a single connection and blazing speeds' to make calls, conduct business and surf the Internet.").

70 *Id.* For instance, IXC Communications's network, capable of speeds up to 80 Gbps, will reach 13,000 miles by the first quarter of 1999. *Communications Daily* (Sept. 10, 1998).

71 *See* <<http://www.direcTV.com>>; *DSL Barriers Paper* at 9.

services, including desktop-to-desktop videoconferencing, electronic messaging and facsimile, Internet access, telemedicine and electronic transaction services.[72] Non-geostationary Ka band systems such as Teledesic also propose to offer technology that will comprise an "Internet in the sky" as well as broadband videoconferencing and interactive multimedia services.[73] The Commission also has accepted applications for satellite systems proposing to use the 36-51.4 Ghz band, of which there are more than 15 pending.[74] The majority of these systems have proposed to offer broadband, two-way interactive, data and multimedia services, as well as "bandwidth on demand."

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72 *See Public Notice, International Bureau Grants Licenses for 73 new Ka-Band Satellites*, IN 97-12 (rel. May 9, 1997); *see, e.g., Comm, Inc.*, Order and Authorization, 12 FCC Rcd 23001, 23002 (1997) (Motorola system proposes to offer residential and business communications that include: telecommuting, education, medical information access, home shopping, information services, access to on-line services and the Internet, as well as "bandwidth on demand"); *Hughes Communications Galaxy, Inc.*, Order and Authorization, 13 FCC Rcd 1351, 1352 (1997) (Galaxy/Spaceway system proposes to offer high-speed computer access to the Internet and on-line services, telephony, narrowband data, high-speed data, videoconferencing, and high capacity two-way communications); *Lockheed Martin Corp.*, Order and Authorization, 12 FCC Rcd 23014, 23015 (1997) (Lockheed system proposes to offer services such as global Internet service, videoconferencing, distance learning, telemedicine, high-speed data networks and "bandwidth on demand"); *Loral Space & Communications Ltd.*, Order and Authorization, 13 FCC Rcd 1030, 1031 (1997) (Cyberstar network proposes to offer video telephony and videoconferencing, medical and technical tele-imaging, high-speed data networks, and "bandwidth on demand").

73 *Teledesic Corporation*, Order and Authorization, 12 FCC Rcd 3154, 3154 (1997).

74 *See Public Notice, Applications Accepted for Filing; Cut-Off Established for Additional Space Station Applications and Letters of Intent in the 36-51.4 Ghz Frequency Band*, Report No. SPB-89 (rel. July 22, 1997).

### 6. Wireless Cable Operators

*"[W]ireless cable operators will be able to offer high-speed data."*[75]

Realizing that both cable and telephone companies face costly network upgrades, wireless cable operators have seized upon high-speed data opportunities using their current generation technologies. Multipoint distribution service ("MDS")-based wireless cable companies already offer one way broadband capability in some areas, and are eagerly anticipating the Commissions' decision in MM Docket 97-217, which is expected to confer upon MDS and instructional television fixed service ("ITFS") operators the express regulatory authority to offer "two-way services, such as high speed Internet service."[76] Today the wireless cable industry is made up of 220 MDS systems passing over 40 million homes and serving 1 million basic cable subscribers.[77] In BellSouth's region, for example DirectNET is offering high-speed data service via wireless cable in Fort Lauderdale, Florida.[78] At this time, potential technical barriers to providing multiple streams of data at 27 Mbps simultaneously to multiple customers do not appear prohibitive.

### 7. Local Multipoint Distribution Service ("LMDS") Providers

LMDS providers are rapidly preparing to enter the broadband marketplace. The auctions for 28 GHz terrestrial spectrum yielded numerous LMDS bidders authorized to use a

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75 Chairman Kennard, *FCBA Remarks*.

76 *Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions*, MM Docket No. 97-217, RM-9060, Notice of Proposed Rulemaking, 12 FCC Rcd 22174, 22175 (1997).

77 *Overview of Wireless Cable Modem Technology and Services*, available at <http://cabledatacomnews.com/cmic10.htm>.

78 *See* Exhibit E.

large block of spectrum (over a gigahertz of total bandwidth). Although LMDS requires some infrastructure investment, LMDS systems can be built quickly, and the low-powered subscriber units should keep LMDS service offerings priced competitively.[79] Thus, the basic attributes of LMDS technology would appear to offer a low cost, high-speed platform for the delivery of broadband services. LMDS providers will be able to provide one-stop offerings, bundling data, video, local loop and long-distance service. However, because of its line-of-sight configuration, it is possible that LMDS will serve only density populated urban and suburban areas.[80]

### 8. Commercial Mobile Radio Service ("CMRS") Providers

Increasingly sophisticated capabilities and declining costs of providing CMRS could lead to a CMRS high-bandwidth "loop."[81] BellSouth participates in industry working groups developing third generation wireless services which could include multimedia services up to 2 Mbps. The current CMRS spectrum cap of 45 MHz[82] could severely limit, if not preclude the effective offering of these advanced wireless services. CMRS providers have not yet achieved the data speeds offered by other technologies, and unless more spectrum is made available for advanced wireless services, along with removal of the CMRS spectrum cap, cellular providers may never be able to develop and deploy advanced services to compete with other technologies.

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79 *See* Daniel Sweeney, "LMDS: How Competitive?" at 4 (Aug. 15, 1998), available at <<http://www.americasnetwork.com/issues/98issues/980815/980815_lmds.html>> ("*Sweeney Article*").

80 *See* Daniel Sweeney, "LMDS: Finally Ready For Prime Time?" at 3 (Aug. 1, 1998), available at <<http://www.americasnetwork.com/issues/98issues/980801/980801_lmds.html>>

81 *See* "Could Mobile Telephones One Day Replace Fixed Lines?" THE ECONOMIST (Sept. 12, 1998), at 74 (discussing "vast array" of wireless Internet access devices).

82 47 C.F.R. § 20.6.

While the extent of CMRS involvement in the broadband/multimedia arena is still uncertain, these firms should not be locked out of the development and potential deployment of wide-band services by regulatory barriers like the CMRS spectrum cap.

### 9. Broadcasting

> *"[D]igital broadcasting, with its huge broadband 'pipe' to every home, will offer a wealth of new programming and innovative services to the public.*[83]

The prospect of digital television sets in nearly every American home promises to become one of the most far-reaching "pipelines" for high-bandwidth connectivity to the home. With the ability to use their allotted 6 MHz channel for ancillary or supplementary services in the conversion to digital television, broadcasters can deliver broadband service through a digital television set.[84] While such methods are largely undeveloped and untried, the ubiquitousness of broadcast television gives broadcasters a strong incentive to supplement their television offerings with data services.

### 10. Utilities

Power companies have been eyeing the broadband telecommunications market as a possible arena in which to diversify their holdings and realize economies of scale from their expansive internal networks.[85] Indeed, power companies are additional potential competitors -- like ILECs, cable operators and broadcasters -- that have an existing infrastructure that reaches

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83 Commissioner Susan Ness, "Digital Pioneers: Embracing the Challenge," Remarks before the California Broadcasters Association (July 27, 1998).

84 *See* 47 C.F.R. § 73.624(b), (c); *Advanced Television Systems and their Impact Upon the Existing Television Broadcast Service*, Fifth Report and Order, 12 FCC Rcd 12809 (1997), *on reconsideration*, 13 FCC Rcd 6860 (1998).

85 *See NOI* at ¶ 48.

nearly every home in the United States. Moreover, utilities have experience managing extensive internal communications networks. Although power-line modems appear not to have moved beyond experimental stages, utilities frequently have extensive fiber networks deployed along major corridors in their service areas. They must be considered likely long-range entrants into the broadband services market that could capture customers by exploiting their existing customer base, infrastructure, rights of way, billing and customer service expertise, reputation, and experience managing complex networks.

#### 11. Conclusion: The Advanced Services Market Has Attracted Numerous Competitors Using a Variety of Technologies

Numerous entities, including cable operators, terrestrial wireless providers, satellite operators, CLECs and ILECs, are forging ahead with assorted strategies for high-end and mass market advanced communications capabilities. These many participants will ensure efficient deployment of advanced services under a variety of marketing plans and technologies, and will restrict each other's ability to raise prices or engage in anticompetitive behavior.

### B. No Single Entity Has Critical Market Share

The market for advanced networking services is vigorously competitive today by any measure. BOCs, handicapped by interLATA restrictions, thus far have captured only minimal market share. Long-distance providers, who are not subject to restrictions on carriage of traffic across LATA boundaries, are the current market driver. International Data Corporation's analysis of packet and cell-based services[86] showed revenue in the nationwide packet/cell-based services market, by provider, at midyear 1997 as follows:

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86 Melanie A. Posey, "U.S. Packet/Cell-Based Services Market Share and Forecast, 1996-2001," International Data Corporation, at 9 (1998), attached as Exhibit F.

| | |
|---|---|
| Sprint | 39.7% |
| AT&T | 17.1% |
| MCI | 16.5% |
| CompuServe | 4.3% |
| US West | 2.6% |
| LLDS WorldCom | 2.6% |
| Pacific Bell | 2.1% |
| Bell Atlantic | 2.1% |
| UniSpan | 2.1% |
| Ameritech | 1.6% |
| GTE | 1.5% |
| Infonet | 1.4% |
| Cable & Wireless | 1.1% |
| LCI | 1.1% |
| Nynex | 1.0% |
| Southwestern Bell | 0.9% |
| MFS | 0.7% |
| IBM | 0.6% |
| BellSouth | 0.5% |

This chart vividly shows that while ILECs, BellSouth included, continue to add broadband capacity to their networks and facilities, their long-distance competitors already have captured a significant share of the advanced network market.

In the mass market for advanced access services, cable modems have secured an early lead as the transmission medium of choice for many consumers. As one industry observer noted, "[e]ven though the game has barely begun, analysis and industry executives alike say cable has a big early lead that will be difficult for its phone industry adversaries to overcome."[87] Analysts predict that the total number of cable modem subscribers will reach anywhere from 425,000 to 700,000 by the end of 1998 (as compared with 25,000 paying ADSL customers by that

87 David Bowermaster, "Cable Modems Outpace ADSL," July 31, 1998, available at <<http://www.2dnet.com>> ("*Bowermaster Article*").

time), followed by projections of 1.1 to 2 million subscribers in 1999 and more than 13 million in 2002.[88] Similarly, despite the small (0.7) percentage of U.S. households that use cable modems today (compared with less than 0.1 percent for ADSL), analysts predict that 7.8 percent of homes will use cable modems by 2001.[89] These market share projections amply demonstrates that cable modems, not ILECs' DSL offerings, have the controlling share of today's advanced access market, a trend which is likely to continue for the foreseeable future.

### C. Demand Will Not Be Inelastic

There is no basis to conclude that demand for advanced services is inelastic. High-end users exhibit the same type of sophistication and understanding here that they do for long-distance and enhanced services, using information technology consultants and in-house communications experts.[90] Not surprisingly, as consumers experience these capabilities at work or learn about them through the media, residential and small business users are demanding and purchasing advanced communications capability at ever increasing levels of sophistication and specialization. Thus, the advanced access market will likely unfold as its interexchange precursor, where, according to the Commission, "residential and small business customers are highly demand-elastic, and will switch carriers in order to obtain price reductions and desired features."[91] That consumers have responded positively to market trials of both DSL and cable modem

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88 *See* Exhibit A at 5; *Bowermaster Article*; *Motorola Article*.

89 *See* Kate Delhagen, *et. al*, "Internet Access Winners," THE FORRESTER REPORT, Vol. 4 No. 9 (Jan. 1998), attached as Exhibit B.

90 *See AT&T Non-Dominance Order*, 11 FCC Rcd at 3306.

91 *Policy and Rules Concerning the Interstate, Interexchange Marketplace Implementation of Section 254(g) of the Communications Act of 1934, As Amended,* CC Docket No. 96-61, Second Report and Order, 11 FCC Rcd 20730, 20742-43 (1996); *see also AT&T Non-Dominance Order,* 11 FCC Rcd at 3307.

offerings indicates that consumers are likely to be willing to switch to another service provider to obtain a higher level of performance, functionality or portability, or a lower price.[92]

Although the advanced access market is still developing, the most vital determinant of demand elasticity -- the availability of substitute goods -- is certainly present. If an ILEC attempts to raise its prices for DSL service, customers will simply migrate to the wide variety of substitutable services. In addition, if advanced services in the mass market evolve as they have for high-end business users, short cycles between increases in performance or functionality are likely, which will spark consumer movement to the enhanced offerings. In short, businesses and consumers know they have choices and appear able and willing to exercise them.

### D. Supply Elasticity Is High

The advanced services market is subject to elastic competitive supply because barriers to entry for new providers are low and existing suppliers can absorb each others' customers and expand their businesses. First, with respect to entry barriers, supply elasticity tends to be high if new suppliers can enter the market relatively easily because of low entry barriers.[93] The number and diversity of advanced services participants confirms that entry barriers are not prohibitive. Despite the initial costs involved in entering the market, these costs have not risen to the level of creating a financial barrier to such entry. Numerous diverse suppliers are developing and deploying advanced services, which means that these entities have been able to access adequate capital. In terms of legal and regulatory barriers, only the BOCs face severe constraints,

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92 Some service offerings currently require a significant investment by end-users, making them less likely to change service providers. However, DSL services will not so limit customer choice, because end-users will be able to use the same CPE and software with different service providers.

93 *AT&T Non-Dominance Order*, 11 FCC Rcd at 3303.

such as interLATA restrictions and burdensome pricing and tariffing requirements, on their ability to offer advanced services in an efficient, integrated manner. Thus, upon completion of build-out periods, competitors will face few barriers to expanding service in response to price and service changes.

Supply will also be deemed elastic if existing competitors can easily and quickly acquire additional capacity.[94] Advanced services competitors are likely to have sufficient capacity to add a significant number of broadband access customers with relative ease and thus absorb the customers of another competitor that has raised the price of its service.[95] The heavy expenditures tend to lie in initial development and construction, and not in actual operation -- once a network is built, the marginal cost of serving subscribers is relatively low.[96] Satellite operators, for example, have low operational costs.[97] Similarly, upon installation of a LMDS system in a given location, it costs little for the LMDS provider to supply an additional home in that area.[98] Moreover, because

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94 *Id.*

95 *See id.* at 3304 (rejecting notion that AT&T's competitors be capable of serving all of AT&T's customers within a short time frame in favor of determination of whether such competitors "can add significant numbers of new customers with their existing capacity and add incrementally to this capacity as new customers are added to their networks."); *Western Union International, Inc. Petition for Reclassification as a Non-Dominant IMTS Carrier from Guam to Overseas Points*, Order, 13 FCC Rcd 4161, 4178 (1997) (for purpose of evaluating supply elasticity, recently-authorized licensees and other carriers that "are offering or will soon offer" competing services were included within the measurement of increased capacity).

96 *See* Exhibit A at 5 ("An MSO's incremental cost for high-speed Internet services averages just $15 per home passed and returns a $40 per month per subscriber revenue opportunity.").

97 *See Sweeeney Article* at 3 ("Although the launch of satellites is an expensive undertaking, the amount of infrastructure required to provide a service is much less than in terrestrial networks.").

98 *See id* at 4 (discussing LMDS cost efficiencies).

analysts universally anticipate a sustained period of rapid growth for advanced services, service providers will continue to realize economies of scope serving incremental demand without the need to capture customers from other suppliers. Thus, new suppliers can readily enter the market and existing competitors can increase the quantity of services supplied in response to an increase in price.

### E. No Entity Has An Inherent Advantage

In the advanced services market, no competitor has an inherent advantage based upon its cost, structure, size or access to resources. The players include Microsoft, AT&T/TCI, MCI/WorldCom, Time Warner, Comcast, Cablevision, and several other substantial entities. While ILECs have POTS infrastructure in place, for the advanced mass market ILECs are starting from ground zero just like every other competitor.[99] Despite having a base of customers and physical plant, costly transformations of networks needed to support advanced services nullifies any potential advantage caused by the relative size or incumbency of local or long-distance telephone companies, cable operators, other MVPDs, broadcasters or utilities.[100]

### F. Conclusion: No Entity Can Exercise Market Power

Advanced networking services are highly-competitive today, and the advanced access market is teeming with incipient competition: consumer demand is exploding and cannot be deemed inelastic; numerous suppliers offering functionally-substitutable services are entering

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99 For this reason, restricting BOC entry for authorizations of new spectrum artificially distorts the market and suppresses competition, and must be avoided in future spectrum allocations.

100 Numerous articles and studies have noted the ILECs' copper plant and switches were designed to optimize POTS, and retrofitting these networks to provide bandwidth-intensive services is costly and time-consuming. *See, e.g.*, Clarke L. Kidder, "Bandwidth.What's the Problem?" TELETIMES, No. 4 (1998).

with low barriers and will be capable of absorbing the market's expected growth; and no entity has an inherent size advantage. In such a market, where consumers can freely choose among various technologies, speeds, functionalities, and prices, no supplier has the ability to raise or maintain prices above costs or exclude competition; thus, no entity is dominant.[101]

## V. THE COMMISSION SHOULD RELY ON MARKET FORCES, RATHER THAN REGULATION, TO HASTEN THE DEPLOYMENT OF ADVANCED SERVICES TO ALL AMERICANS.

> *"[A]ny form of regulation is an imperfect surrogate for full-fledged competition."*[102]

Soon, in addition to existing satellite service, the mass market will receive high-speed broadband access capability through DSL-equipped phone lines, across a cable modem, via a terrestrial wireless system, or potentially as a television channel. The ILECs are in no better competitive position to deploy DSL than the cable companies are to deploy cable modems -- both must undertake costly network transformations and, from a coverage standpoint, both are already behind satellite operators that presently provide high-speed access service throughout the contiguous United States. Yet, the ILECs alone face arduous regulatory constraints in their provision of advanced services that will keep them from becoming full-fledged competitors in the advanced services marketplace.

When such regulatory disparity exists in a market with competitive conditions, the Commission cannot simply strive to achieve regulatory parity, but must do so by allowing all competitors to compete unfettered by regulatory restraint. The solution is not to create "parallel

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101 *See AT&T Non-Dominance Order*, 11 FCC Rcd at 3346-3347.

102 *GTE Telephone Operating Companies; Release of Information Obtained During Joint Audit*, Memorandum Opinion and Order, FCC 98-34 (rel. Mar. 18, 1998), Separate Statement of Commissioner Harold Furchtgott-Roth.

universes" of regulation,[103] but instead to eliminate regulation that is without economic or policy justification. Cable modems are properly free from regulation as common carriers under Title II, as well as from traditional cable service regulation under Title VI, and ILECs should be equally as free to deploy advanced access services. Cable modems, DSL lines, satellite services and all other advanced services must be declared open to competition and subject to the maximum possible degree of forbearance.

Regulation, of course, is an imperfect surrogate for natural competitive forces and is justified only when necessary to fill a void created by the absence of competition. For advanced services, the market is not failing and there certainly is no shortage of competitors. As the Commission stated in its *Universal Service Report to Congress*, "[t]he Internet and other enhanced services have been able to grow rapidly in part because the Commission concluded that enhanced service providers were not common carriers within the meaning of the Act."[104] As far back as 1993, the Commission recognized that advanced services provide an optimal platform for emerging competition, stating that "it is precisely in the provision of services like frame relay that competition is most intense."[105] When such competition is progressing naturally, the Commission

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103 *See Cable Working Paper* at 87.

104 *Federal-State Joint Board on Universal Service,* CC Docket No. 96-45, Report to Congress, FCC 98-67 (rel. Apr. 10, 1998) ("*Universal Service Report to Congress*"), at ¶ 95. *See also* 47 U.S.C. § 230(a)(4) ("The Internet and other interactive computer services have flourished, to the benefit of all Americans, with a minimum of government regulation.").

105 *Policy and Rules Concerning Rates for Dominant Carriers*, AAD 92-47, Memorandum Opinion and Order, 8 FCC Rcd 7474, 7484 (1993).

must not thwart its advancement by attempting to dictate the course of such competition, including the timing and manner of facilities deployment.[106]

The fundamental policy questions implicated in Section 706 are not novel. Commission orders repeatedly affirm that marketplace forces can and should replace regulation as competition develops in a particular market,[107] and the ensuing openness consistently fosters more innovative service offerings at lower prices.[108] Conversely, as the Commission has recognized,

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106 *See Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Report and Order, FCC 98-116, at ¶ 2 (rel. June 24, 1998) (recognizing that the early stages of market development, where participants stand on the precipice of a major change from analog to digital communications, is a "particularly perilous time for the adoption of regulations" because "regulations have the potential to stifle growth, innovation, and technical developments at a time when consumer demands, business plans, and technologies remain unknown, unformed or incomplete.").

107 *See, e.g., AT&T Non-Dominance Order*, 11 FCC Rcd at 3281; *Implementation of Section 402(b)(2)(A) of the Telecommunications Act of 1996*, CC Docket No. 97-11, Notice of Proposed Rulemaking, 12 FCC Rcd 1111, 1130-31 (1997) (citing *AT&T Non-Dominance Order*); *Price Cap Performance Review for Local Exchange Carriers*, Fourth Report and Order 12 FCC Rcd 16642 , 16698 (1997). *See also Domestic Fixed-Satellite Transponder Sales*, 90 FCC 2d 1238 (1982), *aff'd sub nom. Wold Communications v. FCC*, 735 F.2d 1465 (D.C. Cir 1984) ("[t]he public interest touchstone of the Communications Act, beyond question, permits the FCC to allow the marketplace to substitute for direct Commission regulation in appropriate circumstances.").

108 *See, e.g., Revisions to Price Cap Rules for AT&T Corp.*, Report and Order, 10 FCC Rcd 3009, 3027 (1995); *Amendment of Sections 64.702 of the Commission's Rules and Regulations (Third Computer Inquiry)*, CC Docket No. 85-229, Report and Order, 104 FCC 2d 958, 1007-08 (1986) ("*Computer III Phase I Order*"), *on recon.*, 2 FCC Rcd 3035 (1987), *on further recon.*, 3 FCC Rcd 1135 (1988), *on second further recon.*, 4 FCC Rcd 5927 (1989), *vacated sub nom. California v. FCC*, 905 F.2d 1217 (9th Cir. 1990). In other contexts, CMRS competition flourished after the Commission established a regulatory framework for the future evolution of mobile services which "promote[d] the development of new and technologically innovative service offerings, and ensure[d] that consumer demand, not regulatory decree, dictates the course of the mobile services marketplace." *CMRS Regulatory Parity Order* at ¶ 1. The Commission saw the same results from the deregulation of customer premise equipment ("CPE"), which ultimately resulted in innovation and price decreases, including functional choices, lease options and style selections.

regulatory intervention in a competitive marketplace imposes substantial costs and uncertainty upon participants and the Commission, which raises the cost of entry for regulated participants, discourages investment and innovation, and inhibits providers' ability to respond to changing market conditions.[109] In grappling with similar problems "spawned by the confluence of computer and communications technologies"[110] in its extensive *Computer Inquiry*, the Commission declined to regulate enhanced services as common carriage under Title II, finding that the enhanced services market was competitive and that consumers benefited from such competition.[111] In fact, the Commission stated that "the absence of traditional public utility regulation of enhanced services offers the greatest potential for efficient utilization and full exploitation" of the telecommunications network.[112]

In *Computer III*, after considering the "continuing competitive evolution of telecommunications markets," coupled with "lost innovation" and substantial efficiency and monetary costs of structural separation that were borne by the public, the Commission eliminated structural separation requirements and permitted the BOCs and AT&T to offer enhanced services

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109 *See, e.g., Implementation of Section 402(b)(2)(A) of the Telecommunications Act of 1996,* CC Docket No. 97-11, Notice of Proposed Rulemaking, FCC 97-6 (rel. Jan. 13, 1997) ("*Section 214 NPRM*"); *Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry)*, CC Docket No. 20828, Final Order, 77 FCC 2d 384, 434 (1980) ("*Computer II Final Decision*") ("regulation of enhanced communications services would limit the kinds of services an unregulated vendor could offer, restricting this fast-moving, competitive market."); *Computer III Phase I Order*, 104 FCC 2d at 1007 ("Structural separation imposes opportunity costs by discouraging BOCs from designing innovative enhanced services.").

110 *Computer II Final Decision*, 77 FCC 2d at 391.

111 *See Cable Working Paper* at 26 (*citing Computer II Final Decision*, 77 FCC 2d at 430-35).

112 *Computer II Final Decision*, 77 FCC 2d at 387.

on an integrated basis with non-structural safeguards.[113] The Commission specifically found that structural separation requirements "inhibit research or developmental efforts to design new, efficient basic services that could possibly be construed as enhanced."[114] In contrast, the Commission extolled the efficiencies and cost savings that accompany integration, deeming "the ability of carriers and their competitors to provide integrated 'system solutions' to consumers' telecommunications and information processing needs" to be "a significant factor" in considering the appropriate regulatory model for enhanced services.[115]

The Commission should draw upon the lessons of *Computer III* in promoting the efficient introduction of competitive advanced communications services. Only a pro-competitive, deregulatory approach for all competitors will ensure the most efficient and effective proliferation of advanced services to the mass market. The technological achievement and expanded consumer choices generated by an uninhibited market will accelerate the delivery of beneficial advanced communications capability to all Americans. Without question, "[t]elephone service in rural areas, when it was 'advanced,' spread faster under competition than under the previous regime of unregulated monopoly and the later regime of regulated monopoly."[116] Retaining regulatory requirements, or imposing new burdens, for advanced services is not only unwarranted, but in fact inimical to the promotion of competition in and deployment of advanced services. As Senator

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113 *Computer III Phase I Order*, 104 FCC 2d at 1004, 1011-12.

114 *Id.* at 1004.

115 *Id.* at ¶ 76.

116 *NOI* at n. 71 (citing John Brooks, TELEPHONE: THE FIRST HUNDRED YEARS, 116 (1976)).

Burns has noted, "FCC involvement in the emerging digital market could have the effect of freezing or chilling the development of that market."[117]

## VI. Regulatory Barriers For Advanced Services Should Be Removed

> *"[T]here is no need for additional FCC regulation of advanced services, whether offered by the incumbent phone companies or by their competitors. No tariffs to file, no retail price regulation, and no unbundling of the new technologies that must be deployed to make expanded bandwidth to the home a reality. Because that new technology is really a new frontier, one that should not be burdened by regulation."*[118]

Section 706 requires the Commission to use regulatory forbearance and other measures to encourage the rapid deployment of advanced services to American consumers.[119] The Commission cannot satisfy this statutory command without eliminating unnecessary and uneven regulation of ILEC advanced services.

Market distortions caused by asymmetrical regulation cannot be justified in a competitive market, let alone a converging market.[120] The Commission actively has sought to harmonize regulatory requirements and thereby stimulate economic growth in contexts as diverse as LEC payphone services or CMRS, and should do so for advanced services as well.[121] Because

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117 142 Cong. Rec. S700 (Feb. 1, 1996) (Statement of Senator Burns on Section 629 of the Act, commercial availability of navigation devices).

118 Chairman Kennard, *FCBA Remarks* (emphasis added).

119 Section 706(a), (b).

120 *NOI* at ¶ 4. *See CMRS Regulatory Parity Order*, 9 FCC Rcd at 7996 (broadly interpreting statutory terminology to "promot[e] uniformity in CMRS regulation and, thereby, minimize[] the potentially distorting effects of asymmetrical regulation.").

121 *See Implementation of the Pay Telephone Reclassification and Compensation Provisions of the Telecommunications Act of 1996, et. al,* CC Docket Nos. 96-128, 91-35, Report and Order, 11 FCC Rcd 20541, 20611 (1996) (deregulating ILEC payphones after finding a competitive market for payphone CPE); *CMRS Regulatory Parity Order*, 9 FCC Rcd at 8002 (establishing a symmetrical regulatory framework for similar mobile services). When

of the ubiquity of the ILEC networks, the Commission has found ILECs to be "especially effective" at offering services to residential and small business users. Regulation that fetters the ILECs, therefore, harms the public by denying all consumers the benefit of services that could be "widely and efficiently available" through their local exchange provider.[122] In the absence of regulatory relief, the Commission will "directly or indirectly inhibit the offering" of advanced services by interjecting its administrative processes "between technology and its marketplace applications,"[123] making the ILECs less effective competitors in the market. Instead, reducing regulatory constraints will stimulate ILEC investment and jumpstart competition in services for residential consumers and small businesses.

The public interest is best served by ensuring that *all* competitors have incentives to invest in and to deploy advanced services rapidly. While BellSouth intends to respond more fully to the Commission's proposed regulatory changes in the *Section 706 MO&O/NPRM,* set forth below is BellSouth's response to the *NOI*'s request for action needed to satisfy Section 706's command to "remove barriers to infrastructure investment."[124] In terms of specific measures for the Commission to take in order "to aid the deployment of advanced telecommunications capability,"[125] the Commission should:

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the Commission perceived the infant domestic satellite market as having great potential for offering innovative services through a new and largely untested technology, the Commission fostered its development by establishing a policy of encouraging open entry and of minimizing regulatory restraints. *See Domestic Fixed-Satellite Transponder Sales*, 90 FCC 2d 1238 (1982), *aff'd sub nom. Wold Communications v. FCC,* 735 F.2d 1465 (D.C. Cir 1984).

122 *Computer II Phase I Order,* 104 FCC 2d at 1007-08.

123 *Cable Working Paper* at 33.

124 Section 706(b).

125 *NOI* at ¶ 69.

- Grant Section 271 interLATA relief and resolve all other advanced services proceedings expeditiously;
- Forbear under Section 10 from dominant carrier pricing, tariffing and Section 214 requirements of ILEC advanced services; and
- Interpret Section 251 flexibly for advanced services so as not to resurrect a failed structural separation framework in a competitive market.

The failure to take these measures would contravene the clear intent of Section 706 to promote the rapid deployment of advanced services to all Americans.

### A. The Commission Must Grant Section 271 And Other Regulatory Relief Expeditiously

> *"[W]e cannot afford to wait. We cannot afford to let the homes and schools and businesses throughout America wait. . . . We must act today to create an environment where all competitors have a fair shot at bringing high capacity bandwidth to consumers -- especially residential consumers."*[126]

Regulatory uncertainty remains an invidious barrier to entry and investment by all carriers. The Commission should act promptly on requests for regulatory forbearance as well as for permission to enter new markets, including BOC petitions to provide interLATA services.[127] The Commission has admitted in numerous contexts that as a result of excessive regulatory requirements, "services that would provide valuable benefits to the public may never be offered."[128] The structural separation requirements imposed on enhanced services provided by the BOCs and AT&T, for example, slowed the realization of enhanced services to consumers, and, as

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126 Chairman William E. Kennard, Remarks before the National Association of Regulatory Utility Commissioners (July 27, 1998).

127 *See* Petition of the Alliance for Public Technology Requesting Issuance of Notice of Inquiry and Notice of Proposed Rulemaking to Implement Section 706 of the 1996 Telecommunications Act (filed Feb. 18, 1998) (*"APT Petition"*), at n. 14.

128 *See, e.g., Computer III Phase I Order,* 104 FCC 2d at 1002.